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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/035,065  | 12/27/2001  | Tadashi Nomura       | SIW-026             | 3263             |
| 959   | 7590        | 04/15/2004           | EXAMINER            |                  |
| LAHIVE & COCKFIELD, LLP.<br>28 STATE STREET<br>BOSTON, MA 02109 |             |                      | MARTIN, ANGELA J    |                  |
|   |             | ART UNIT             | PAPER NUMBER        |                  |
|   |             | 1745                 |                     |                  |

DATE MAILED: 04/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|------------------------------|------------------------|---------------------|
|                              | 10/035,065             | NOMURA ET AL.       |
| Examiner                     | Art Unit               |                     |
| Angela J. Martin             | 1745                   |                     |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 27 December 2001.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1 and 3 is/are rejected.

7)  Claim(s) 2, 4-14 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 27 December 2001 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a)  The translation of the foreign language provisional application has been received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.  
4)  Interview Summary (PTO-413) Paper No(s) .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: .

## DETAILED ACTION

### *Drawings*

1. Figures 5 and 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenji, Japanese Pat. No. 2000-223144.

Kenji teaches a fuel cell system having a reforming reactor, the system comprising a fuel cell, a reforming reactor, and a drain for condensed water stored in the reforming reactor (abstract). In addition, it teaches a tank provided at the downstream side of the drain, for storing condensed water (Drawing 1).

Thus the claims are anticipated.

***Allowable Subject Matter***

4. Claims 2 and 4-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The Applicant claims a fuel cell system as described in claim 1, further comprising a water-collecting portion formed by a plurality of sloped portions and attached to the bottom of the reforming reactor, wherein the drain is connected to the water-collecting portion. Additionally, Applicant claims the fuel cell system as described in claim 1, further comprising a purifier for condensed water, wherein the purifier is a combustor for off-gas discharged from the fuel cell. Applicant claims the fuel cell as described in claim 3, further comprising a flow control device, downstream of the tank, for controlling the flow of the condensed water and a purifier for the condensed water, downstream of the flow control device. The Applicant claims the fuel cell system as described in claim 7, further comprising a water-level detector attached to the tank, wherein the device is a flow control valve that is controlled based on detected results of the water-level detector. Applicant claims a fuel cell system as described in claim 5, further comprising a purification determining section, wherein the flow control device is a valve and the valve is controlled based on determined results of the purification determining section. The Applicant claims a system as described in claim 5, wherein the flow control device is an orifice. Applicant claims a system as described in claim 1,

wherein the reforming reactor comprises a plurality of serially-connected functional elements and a water-collecting portion which is formed by a plurality of sloped portions and which is attached to the bottom of each functional element of the reforming reactor, wherein the drain is connected to the water-collecting portions; wherein the functional elements include a heat exchanger for decreasing the temperature of the fuel gas; the functional elements include a CO remover. Applicant claims a system as described in claim 6, wherein the combustor is a catalytic combustor. The Applicant claims a system as described in claim 8, wherein the combustor is a catalytic combustor, and the purification determining section determines that the purification of condensed water using the purifier is possible if the temperature of catalyst of catalytic combustor is equal to or above a predetermined temperature and the water level of the condensed water in the tank is equal to or above a predetermined level.

The prior art of record does not teach the above described fuel cell system as claimed in claims 2 and 4-14.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 703-305-0586. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-0756. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AJM  
December 23, 2003

A handwritten signature in black ink, appearing to read "Angela J. Martin".